

Bayer Product Update

A product update from Environmental Science, a business unit of Bayer CropScience LP

Celsius[®] WG Herbicide: Application Guidelines to Maximize Weed Control and Turf Safety

About Celsius

Celsius is a new generation post-emergent herbicide developed by Environmental Science, a business unit of Bayer CropScience LP, that provides post-emergent control of over 120 broadleaf and grassy weeds in several types of turf as well as up to 60 days of pre-emergent weed control. Celsius is intended to be applied as a foliar spray at rates between 2.5 - 4.9 oz per acre to St. Augustinegrass, bermudagrass, zoysiagrass and centipedegrass. However, as size and weed type may vary, the following guidelines have been developed to ensure maximum performance of Celsius, while maintaining turf safety.

How to Apply Celsius

Industry professionals have multiple options when making post-emergent herbicide applications with Celsius. Factors such as spray equipment, the size of the area treated and the weed density within that area, determine which application method to follow.

Broadcast applications can be made to entire <u>or</u> smaller areas, known as zones. Broadcast applications are made using a specific amount of product per acre, or per 1,000 ft², and can be done with a boom sprayer or a hand held gun. It's important that the applicator and the equipment be calibrated, so that an accurate amount of product is delivered properly to the area.

Application methods include traditional broadcast applications, zone broadcast applications and spot treatment applications.

Application Methods

- **Traditional broadcast applications** refer to applications made wherein 100 percent of the property is treated with product to provide total weed control, regardless if it is needed or not.
- Zone broadcast applications refer to applications wherein a specific area is treated using broadcast method (i.e. spraying 5,000 ft² of a 20,000 ft² yard). Many industry professionals are moving towards zone broadcast applications when applying a post-emergent herbicide, like Celsius. This method avoids over application and wasted product, while also ensuring that surrounding weeds, not always visible, are treated.
- **Spot treatment applications** refer to applications wherein a specific weed or group of weeds is targeted with product in a spray-to-wet method. Typically done with hand held or backpack applicators, spot treatment applications can also be done with small mechanical sprayers, such

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as a 25 gallon tank with a hose and nozzle. This method may result in over application, which can cause negative turf response, such as yellowing and/or stunting. When making spot treatment applications, exercise caution and follow labeled rates closely.

- When making spot treatment applications with Celsius using non-mechanized equipment, it is more difficult to accurately apply the correct rate. When Celsius is applied at labeled rates for spot treatment applications, there is a specific amount of product recommended per gallon of water. Spray solution can be applied up to 1,000 ft². When applying spot treatments, weeds should be sprayed to ensure adequate coverage of the herbicide while avoiding over application.
- For spot treatment applications of Celsius with a backpack sprayer, add the specified product rate of 0.057 0.113 oz (1.6-3.2g) to 1 gallon water. One gallon of spray solution will treat up to 1,000 ft². Then, spray to wet, while avoiding over application. Bayer does not recommend adding any adjuvant or surfactants to the spray solution.

To achieve the best results with Celsius, zone broadcast applications are recommended. Zone broadcast applications are the most effective way to treat weeds from a cost and efficacy standpoint as an industry professional does not run the risk of over application, which can lead to damaged turf. Product is not wasted and weeds are not over-looked.

About Sprayer Calibration

Calibration is important when applying any pesticide or fertilizer, to insure that the exact, recommended amount of product per acre, or per 1,000 ft², is applied. Proper calibration is critical for proper performance of Celsius. Too little Celsius per area can result in inadequate weed control, while too much Celsius can result in wasted product and damaged turf grass due to toxic effects, known as phytotoxicity. Whether applying spot treatment applications via backpack, or spraying broadcast treatments, calibration is critical to achieve maximum weed control and turf safety.

Calibration for Broadcast Applications

The following instructions should be followed for proper calibration before traditional and zone broadcast spray applications:

- 1. Determine the time it takes for your technician to cover 1,000 ft²
- 2. Use a metered bucket to determine how many gallons of water are delivered from your truck in the amount of time it takes the technician to cover 1,000 ft²
- 3. Take the numbers from step 1 and 2 and calculate the amount of product to add to the treatment tank. For example:
 - Your technician covers 1,000 ft² in 1 minute
 - Your truck delivers 3 gallons of spray mixture per minute
 - Your technician and truck are calibrated to deliver 3 gallons of spray per 1000 ft² or 130 gallons of spray per acre (1 acre equals 43,560 ft²)
- 4. Following calibration, refer to the product label to determine the amount of product to put into the tank

Calibration for Spot Treatment Applications

Calibration can be difficult to assess for spot treatment applications. Refer to the "Celsius Rates and Measurements Chart for Backpack Sprayers and Hand-Cans," hand-out for the proper amount of Celsius to mix per gallon of water. The most important thing is to achieve adequate coverage. Spray-to-wet and not over apply.

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Additional Application Guidelines

Water Volume & Nozzle Selection for Broadcast Applications

Adequate spray water volume is important when applying post-emergent herbicides, such as Celsius. With foliar spray applications, the spray solution acts as the carrier of the active ingredients to the weeds, where they are absorbed and cease plant growth. Inadequate spray volumes will result in poor coverage of the herbicide on the weed surface. Herbicide coverage is always critical in any application. Weed density, environmental conditions, and growth stage of the weeds should be evaluated prior to making applications.

When applying Celsius as a broadcast application, use a minimum of 10 gallons of water per acre. Higher spray volumes (up to 60 gallons of water per acre) should be used for weed control in dense weed populations, areas of high turf density, weeds under adverse growing conditions, and control of mature weeds.

Application During Extreme Heat

Celsius controls weeds faster, and sometimes better, during warmer weather conditions when plants are more actively growing. However, when turf grass is under stress (i.e. over 90 degrees temperatures), Celsius has caused temporary yellowing and/or stunting of turf grass. This typically occurs only if excessive application rates are used with spot applications. When dealing with stressful conditions like heat, Bayer recommends zone broadcast applications over spot treatment applications to limit negative turf response as much as possible.

For more information, visit <u>www.BackedbyBayer.com</u> or contact your local Bayer Field Sales Representative, Bayer authorized distributor or Bayer Customer Service at 1-800-331-2867.

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